The Meter Asset Manager needs a solution to manage suite of assets for the responsible area which includes Smart Meters, Basic Meters and other assets such as Access Points, Micro-AP etc.

The Metering Service Provider Company has invested in setting up infrastructure to support Smart Meters in responsible area to meet the State Regulatory Requirement & to provide valued customer services. As a part of state essential services, the Manager needs to optimize the cost of operations, meet the industry obligation for provision of timely & accurate smart meter data and minimum Service Level Agreement for metering services and also accountable for health and safety of our team and any public health and safety incidents that may be originated by the assets owned by the metering service provider company.
Tom Smith
Meter Asset Manager

I want a cost effective and optimized management of the meters and associated assets in my responsible area.

About

- 45, 25 years of Meter Asset Management experience.
- Being the person who makes the Meter & Asset Management decisions, I have to keep the balance between improving the operational efficiency and managing minimum service levels.
- Strong advocate of health & safety of the team member and Public space
- I work with the Field Workers & Technicians, and Admins

Responsibilities

- I am responsible for 700,000 Meters and associated assets supporting the Smart Metering Infrastructure.
- I am responsible for the health & safety of the Team Member and public health & safety incidents that may be originated by the assets owned under my responsibility.
- Optimize the cost of operations and meet the minimum service level for metering services.
- Represent the cost of meters and asset management to company board and Auditors

Main Goals

- Being the person who makes the Meter & Asset Management decision, I have to keep the balance between improving the cost efficiency of assets and minimum service level.
- Health and safety of the team members and public space.
- Meet the Industry Obligation to provide timely & accurate smart meter data and minimum Service Level Agreement for metering services

Needs

- Real-time information on the assets health that supports Smart Metering Infrastructure.
- Real-time information to provide early Insight on the faulty assets, probable failures & communication faults.
- Capability to optimally leverage Smart Meter Infrastructure to justify the investment
- Monitoring capability of Tamper Events and any unexpected activities
- Manage asset inventory, procurement and refurbishment process in real-time

Pain Points

- No early insight on the faulty assets, probable failure and communication faults to plan & automate remediation work.
- Absence of the early prediction of critical weather integrated with my assets to keep workforce ready to minimize life and property loss.
- Lack of the way to monitor the tamper and unexpected activities related to the assets.
- No ability to real-time inventory tracking and device position.
Point of View

As a Meter Asset Manager
I need a way to effectively manage the asset under my responsibility & operate cost effectively by optimally leverage & extending smart metering (IoT) infrastructure so that my company meets regulatory obligations, deliver valued customer service & realize the benefits of the investment.
# UX Journey

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Daily Asset Health Check-up and Comms Faults</th>
<th>Work Management and distribution for faulty assets</th>
<th>Workforce Management for Stormy or hot day</th>
<th>Monitoring Tampering and unexpected activities around assets</th>
<th>Inventory Management and Refurbishment</th>
<th>Board Meeting and Annual Regulatory Audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINDSET</td>
<td>“Now what goes here” “I wish these are real-time” “which are critical for my overall network” “Does it impact my regulatory obligation or minimum SLAs”</td>
<td>“Does it always have to be reactive” “Same pattern again, I wish I had smarts to self-rectify certain patterns” “This meter was alerting RAM failure”</td>
<td>“Hot day again, need to monitor temperature of my assets” “have to keep people on alert” “would be excellent if I had weather forecast integrated with my asset locations”</td>
<td>“Why these meters in this area sends tampering alerts” “What is going on?” “why so many customers are turning on the solar generation without prior approval”</td>
<td>“Don’t know where these meters are after removal?” “Need to order more meters these time as awaiting for refurbished to return”</td>
<td>“Justifying Operation cost would be difficult” “Am I getting really business value from Smart Metering Infrastructure?” “Need to provide full fledge report on Bushfire incident”</td>
</tr>
<tr>
<td>FEELING</td>
<td>😞</td>
<td>😞</td>
<td>😞</td>
<td>😞</td>
<td>😞</td>
<td>😞</td>
</tr>
<tr>
<td>TOUCH POINTS</td>
<td>System Health Report E-mails</td>
<td>Work management System Meter Management System</td>
<td>Online Weather Forecast Map with asset locations Mobile or Telephone</td>
<td>Meter Event Report Email Map with locations</td>
<td>Inventory Management System Paperwork of lost assets</td>
<td>Annual Reports</td>
</tr>
</tbody>
</table>
Prototype

Summary of the Prototype:
- Leverages Smart Metering Infrastructure which is the existing IoT Infrastructure
- Extending the IoT Infrastructure with existing capability of smart meters to sense, alert & respond, following are some examples,
  - Tagging the assets with geo-positioning sensor
  - Utilizing Smart Meter’s capability of alarming temperature with additional Temperature sensors in Bushfire Prone Zone
  - Use Vision and Motion Sensors to monitor Tamper and un-expected activities
  - Use of Temperature, Camera Sensors for Basic Meters to avoid field visits for meter readings
- Machine Learning and Predictive Analysis to assist or automate remedies on the common failure patterns of the metering assets.
- Real Time Analytics for Asset Health and Monitoring
- Integrating Weather forecast with asset infrastructure (using real-time sensor data and meter alerts) to predict the impact of severe weather conditions to minimize the loss of Life and Property
- Predictive Monitoring and Alerting/Notifying Customer & Responsible Team in case of certain unusual behavior at Metering Installation. Example – Temperature of the meter rising consistently which could result in fire or meter explosion.
- Geo-fencing and Geo-Trailing for the Assets for Asset theft and Asset Refurbishment Process

Prototype Mock-up: Prototype Overview
BUILD Study Link:
https://standard.build.me/user-research/3724be01869b7a920e1851b0/participant/7136dce702a7aea60e1e79fe

Meter & Asset Management Solution using IoT

This is based on Internet of Things (IoT) Connected Goods from SAP. You can use this as starting template prototype to design any Connected Goods dashboard.
Launch Page:

Meter & Asset Management Solution using IoT

Asset Health Overview

Meter Overview

MicroAP Overview

Meter Events

Meter Event Management

Meter Events Overview

Health & Safety

Workforce Management integrated with Weather Forecast & Temperature Data

196

Forecast Temperature & Sensor Data

Inventory Management

Asset Inventory Management & Refurbishment Process

Meter & Asset Health Page: Work Order creation for Offline Meters

Meter & Asset Health Status

Smart Meters & Basic Meters

620,000

Online (99.93%)
Offline (0.07%)
Base (0.00%)

10,000 SMART METERS
600,000 SMART METERS
10,000 BASIC METERS

Warning
Information

© SAP SE or an SAP affiliate company. All rights reserved.
MicroAP Page: Online MicroAP & Work Order creation for Offline MicroAP

Comms Fault Notification Page & Meter Event Page: Work Order creation for Comms Fault & Tamper Event Area